

APPLICATION of FARBER et al - Appln. No. 09/612,598

61. A content delivery method, comprising:

distributing a set of page objects across a network of servers managed by a domain other than an origin server domain, wherein the network of servers are organized into a set of regions;

5 for a given page normally served from the origin server domain, tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the origin server domain;

in response to a client request for an embedded object of the page:

resolving the client request as a function of a location of the client
10 machine making the request and current Internet traffic conditions to identify a given region; and

returning to the client an IP address of a given one of the servers within the given region that is likely to host the embedded object and that is not overloaded.

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REMARKS

Applicants thank that Examiner for the numerous courtesies extended their representative during their various telephone interviews.

Upon entry of this amendment, claims 41, 42, 45, and 48-61 will be pending in this application.

The Examiner objected to the drawings under 37 CFR 1.83(a). The claims have been amended to use the phrase "origin server" or "first server" or "server" in place of "content

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provider server." The claims have also been amended to use the phrase "repeater server" or "server" where appropriate. In view of the amendments to the claims, withdrawal of that objection is respectfully requested.

The Examiner rejected claims 41-48, 50, 54, 58 and 68 under 35 USC § 103 as being unpatentable over a combination of Colby (U.S. Pat. No. 6,006,264), Chow (U.S. Pat. No. 6,029,175), Brendel (U.S. Pat. No. 5,774,660). Claims 49, 51-53, 55-57, 59-67 and 69 were rejected under § 103 as being unpatentable over Colby-Chow-Brendel and Earl (U.S. Pat. No. 6,041,324). Applicants traverse these rejections, *inter alia*, because the Colby and Earl patents are not prior art.

The Colby '264 patent is common to both rejections and has a filing date of March 30, 1998 and a domestic priority date, based on a provisional patent application No. 60/054,687, of August 1, 1997.

The Earl '324 patent has a filing and priority date of Nov. 17, 1997 and an issue date of March 21, 2000.

The present application is a continuation of U.S. Patent Application No. 09/021,506, filed February 10, 1998.

Applicants submit herewith a Declaration of Prior Invention (*DECLARATION OF ANDREW D. SWART UNDER 37 CFR § 1.131*) from one of the inventors of the present invention establishing completion of the claimed invention prior to August 1, 1997, i.e., prior to the filing and/or priority dates of both the Colby and Earl patents. Applicants reserve the right to establish earlier dates of conception and reduction to practice.

The Rule 131 declaration filed herewith is not meant and should not to be construed in any way as an admission that any proposed combination of the cited art of record,

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including, specifically, Colby, Chow, Brendel and Earl teaches the presently claimed invention.

As shown by the attached declaration and exhibits, the U.S. Patent 6,006,264 of Colby et al. And U.S. Patent No. 6,041,324 of Earl et al are not prior art because Applicants completed the invention in this country prior to the effective filing dates of the applications on which those patents issued.

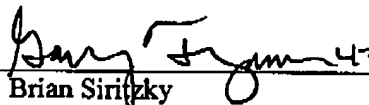
Applicants respectfully submit that the claim rejections made under Section 103 should be withdrawn.

Having responded to all pending objections and rejections in Paper No. 12, and all applicable requirements of 37 CFR § 1.607 having been complied with, it is respectfully requested that an interference be declared between the present application and with Leighton et al, U.S. Patent No. 6,108,703.

Respectfully submitted,

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APPENDIX**AMENDED CLAIMS:**

41. (Amended) A distributed hosting framework operative in a computer network in which users of client machines connect to a [content provider] first server, the framework comprising:

a routine for modifying at least one embedded object URL of a web page to include a hostname prepended to a domain name and path;

a set of [content] repeater servers, distinct from the [content provider] first server, for hosting at least some of the embedded objects of web pages that are normally hosted by the [content provider] first server;

at least one first level name server that provides a first level domain name service (DNS) resolution; and

at least one second level name server that provides a second level domain name service (DNS) resolution;

wherein in response to requests for the web page, generated by the client machines the web page including the modified embedded object URL is served from the [content provider] first server and the embedded object identified by the modified embedded object URL is served from a given one of the [content] repeater servers as identified by the first level and second level name servers.

42. (Amended) The hosting framework as described in claim 41 wherein a given one of the set of repeater servers includes a buddy server for assuming the hosting responsibilities of the given one of the set of repeater servers upon a given failure condition.

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45. The hosting framework as described in claim 41 wherein the first level name server includes a network map for use in directing a request for the embedded object generated by a client.

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48. (Amended) A method of serving a page supported at a [content provider] first server, the page comprising a markup language base document having associated therewith a set of embedded objects, each embedded object identified by a URL, the method comprising [the steps of]:

rewriting the URL of an embedded object to generate a modified URL, the modified URL including a new hostname prepended to an original hostname, wherein the original hostname is maintained as part of the modified URL for use in retrieving the embedded object whenever a cached copy of the embedded object is not available;

in response to a request to serve the page received at the [content provider] first server, serving the page with the modified URL;

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attempting to serve the embedded object from a [content] server other than [content provider] first server as identified by the new hostname; and

if the cached copy of the embedded object is not available from the [content] server, serving the embedded object from the [content provider] first server.

49. (Amended) A method of serving a page and an associated page object, wherein the page is stored on [a content provider] a first server and copies of the page object are stored on a set of [content] servers distinct from the [content provider] first server, the method comprising [the steps of]:

(a) modifying a URL for the page object to include a hostname prepended to [a content provider] an origin server-supplied domain name and path;

(b) serving the page from the [content provider] first server with the modified URL;

(c) responsive to a browser query to resolve the hostname, identifying a given one of the set of [content] servers from which the object may be retrieved; and

(d) returning to the browser an IP address of the identified [content] server to enable the browser to attempt to retrieve the object from that [content] server.

50. (Amended) The method as described in claim 49 wherein the copies of the page object are stored on a subset of the set of [content] servers.

51. (Amended) A content delivery method, comprising:

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tagging an embedded object in a page to resolve to a domain other than [a content provider] an origin server domain by prepending given data to [a content provider] an origin server-supplied URL to generate an alternate resource locator (ARL);

serving the page from [a content provider] an origin server with the ARL; and

resolving the ARL to identify a [content] server in the domain; and

serving the embedded object from the identified [content] server.

52. (Amended) The method as described in claim 49 wherein the step of resolving the ARL comprises:

utilizing a requesting user's location and data identifying then-current Internet traffic conditions to identify the [content] server.

53. (Amended) A content delivery service, comprising:

replicating a set of page objects across a wide area network of [content] servers managed by a domain other than [a content provider] an origin server domain;

for a given page normally served from the [content provider] origin server domain, tagging the embedded objects of the page so that requests for the page objects resolve to the domain instead of the [content provider] origin server domain;

responsive to a request for the given page received at the [content provider] origin server domain, serving the given page from the [content provider] origin server domain; and

serving at least one embedded object of the given page from a given [content] server in the domain instead of from the [content provider] origin server domain.

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54. (Amended) The content delivery method as described in claim 51 wherein the serving step comprises:

for each embedded object, identifying one or more [content] servers from which the embedded object may be retrieved.

55. The method as described in claim 54 wherein the identifying step comprises:
resolving a request to the domain as a function of a requesting user's location.

56. The method as described in claim 55 wherein the identifying step comprises:
resolving a request to the domain as a function of a requesting user's location and then-current Internet traffic conditions.

57. (Amended) A method for Internet content delivery, comprising:
at a first [the content provider] server, modifying at least one embedded object URL of a page to include a hostname prepended to a domain name and a path normally used to retrieve the embedded object;

responsive to a request for the page issued from a client machine, serving the page with the modified embedded object URL to the client machine from the [content provider] first server;

responsive to a request for the embedded object, resolving the hostname to an IP address of a [content] server[,] other than the [content provider] first server, that is likely to host the embedded object; and

attempting to serve the embedded object to the client from the [content] server.

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58. The method as described in claim 57 wherein the page is formatted according to a markup language.

59. The method as described in claim 57 further including the step of rewriting the embedded object URL as the [content provider] modifies the page.

60. (Amended) The method as described in claim 57 wherein the step of resolving the hostname includes:

identifying a subset of [content] servers that may be available to serve the embedded object based on a location of the client machine and current Internet traffic conditions; and
identifying the [content] server from the subset of [content] servers.

61. (Amended) A content delivery method, comprising:

distributing a set of page objects across a network of [content] servers managed by a domain other than [a content provider] an origin server domain, wherein the network of [content] servers are organized into a set of regions;

for a given page normally served from the [content provider] origin server domain,
tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the [content provider] origin server domain;

in response to a client request for an embedded object of the page:

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resolving the client request as a function of a location of the client machine
making the request and current Internet traffic conditions to identify a given region;
and

returning to the client an IP address of a given one of the [content] servers
within the given region that is likely to host the embedded object and that is not
overloaded.